

Abstract

A flow completion apparatus comprises a wellhead housing installed at an upper end of a well bore and a tubing spool connected over the wellhead housing. The tubing spool includes a central bore extending axially therethrough, a production outlet communicating with the central bore and an annulus passageway communicating with the tubing annulus. A tubing hanger is supported in the central bore and includes a production bore extending axially therethrough and a production passageway communicating between the production bore and the production outlet. The tubing spool comprises a workover passageway extending between the annulus passageway and a portion of the central bore located below the top of the tubing hanger. Furthermore, the tubing hanger comprises an annulus bore extending between the workover passageway and the top of the tubing hanger.